Claims

[c1] 1.A multilayer composition, comprising

an upper layer comprising

a polymer system consisting essentially of a cycloaliphatic polyester resin, and

an additive composition comprising a hindered amine light stabilizer and a low volatility, hydroxyphenyl-triazine or -pyrimidine UV absorber;

an intermediate layer comprising

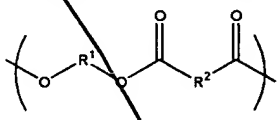
a polymer system consisting essentially of a cycloaliphatic polyester, and

optionally,

an additive composition comprising TiO_2, dyes, pigments, special effects additives, or a combination comprising at least one of the foregoing; and

a polymeric substrate, wherein said intermediate layer is disposed between and in intimate contact with said upper layer and said substrate.

[c2] 2.The composition of claim 1, wherein said cycloaliphatic polyester has recurring units of the formula:

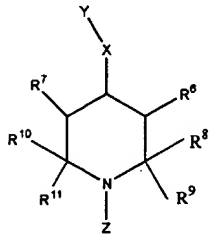


wherein R^1 is an alkyl or cycloaliphatic radical preferably having from 2 to about 12 carbon atoms, and R^2 is an alkyl or a cycloaliphatic radical, provided that at least one of R^1 or R^2 is a cycloalkyl group.

[c3] 3.The composition of claim 2, wherein R^1 and R^2 is each a cyclohexylidene.

[c4] 4.The composition of claim 1, wherein said hindered amine light stabilizer comprises a substituted piperidine moiety or an oligomer substituted piperidine moiety.

[c5] 5. The composition of claim 4, wherein said hindered amine light stabilizer is a 4-piperidinol derivative having the general formula

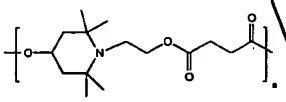


wherein X is oxygen; Y is hydrogen, hydroxyalkyl, aminoalkyl, or alkyl substituted

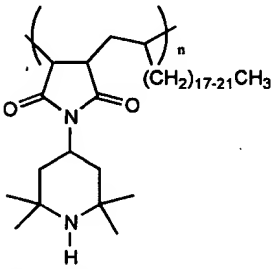
Sub A1 cont.

by both hydroxyl and amino groups, where the alkyl has up to about 20 carbon atoms on average; R^6 and R^7 are each independently selected from the group consisting of hydrogen, an alkyl group, an alkenyl group, or an arylalkyl group; R^8, R^9, R^{10}, and R^{11} are each independently selected from the group consisting of an alkyl group having 1 to about 6 carbon atoms, phenyl, an arylalkyl group, an aromatic heterocyclic group having 5 or 6 carbon atoms, and containing an oxygen, sulphur or nitrogen atom, or R^8, R^9, R^{10}, and R^{11} respectively, together or with the carbon atom to which they are attached are a C_5 to C_{12} cycloalkyl group; Z is an oxy radical, an alkyl group, an alkenyl group, an alkoxyalkyl group, an arylalkyl group that is unsubstituted or which has one or more substituents in its aryl moiety; and R^{13} is hydrogen, an alkyl group, an ester, a carbonyl, an acyl group, an aliphatic acyl group, or a group represented by the formula $-COOR^{15}$, or $-OOCR^{15}$, wherein R^{15} is an alkyl group, a benzyl group, a phenyl group.

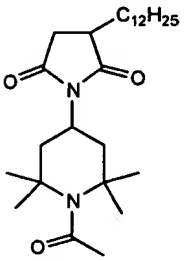
[c6] 6.The composition of claim 5, wherein said hindered amine light stabilizer has the formula:



wherein n is on average greater than about 9, and less than about 12, by the formula:



wherein n is on average greater than about 4, and less than about 7, by the formula:



or a mixture comprising at least one of the foregoing hindered amine light

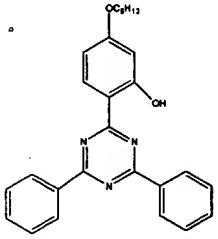
Sub A1 cont'

stabilizers.

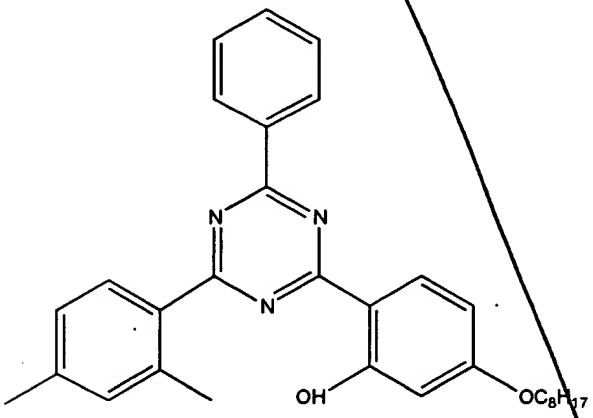
[c7] 7.The composition of claim 3, wherein said hindered amine light stabilizer is present in an amount greater than about 0.1% by weight, and less than about 10% by weight of the total weight of said upper layer.

[c8] 8.The composition of claim 1, wherein said low volatility hydroxyphenyl-triazine or -pyrimidine UV absorber contains a 2,4,6-trisaryl-1,3,5-triazine moity and a free hydroxyl group, or contains a 2,4,6-trisaryl-1,3-pyrimidine moiety and a free hydroxyl group.

[c9] 9.The composition of claim 1, wherein said low volatility hydroxyphenyl-triazine or -pyrimidine UV absorber has the formula:



or the formula:



[c10] 10.The composition of claim 8, wherein said low volatility hydroxyphenyl-triazine or -pyrimidine UV absorber is present at a concentration greater than or equal to about 0.01% by weight, and less than or equal to about 10% by weight of said upper layer.

[c11] 11.The composition of claim 1, wherein the substrate comprises polycarbonate.

[c12] 12.The composition of claim 1, wherein the substrate is in the form of a film.

[c13] 13.The composition of claim 1 having a a gloss measured at an angle of 60

Sub A1 cont.

degrees of more than about 60%, a change in gloss of less than about 20% 3000 hours of weathering according to the ISO4892-2A protocol , and a change in color of less than about 3 after 3000 hours of weathering according to the ISO4892-2A protocol.

[c14] 14.The composition of claim 13 wherein the gloss is greater than about 70%, the change in gloss is less than about 15%, and the change in color is less than about 2.

[c15] 15.The composition of claim 13, wherein the gloss is greater than about 80%, the change in gloss is less than about 10%, and the change in color is less than about 1.

[c16] 16.The composition of claim 1 having a gloss measured at an angle of 60 degrees of more than about 75%, a change in gloss of less than about 15% after after heat aging at 80 ° C for three months, and a change in color of less than about 2 after heat aging at 80 ° C for three months.

[c17] 17.The composition of claim 16 wherein the gloss is greater than about 80%, the change in gloss is less than about 10%, and the change in color is less than about 1.5.

[c18] 18.The composition of claim 13, wherein the gloss is greater than about 85%, the change in gloss is less than about 5%, and the change in color is less than about 1.

[c19] 19.A multilayer composition, comprising

an upper layer comprising

a polymer system consisting essentially of a cycloaliphatic polyester resin, and an additive composition comprising a hindered amine light stabilizer and a low volatility, hydroxyphenyl-triazine or -pyrimidine UV absorber;

an intermediate layer comprising

a polymer system consisting essentially of a cycloaliphatic polyester, and an additive composition comprising TiO_2 , and optionally dyes, pigments, special effects additives, or a combination thereof; and

a polycarbonate substrate layer, wherein said intermediate layer is disposed between and in intimate contact with said upper layer and said substrate layer.

[c20] 20. An article comprising the composition of claim 1.

[c21] 21. An article comprising the composition of claim 12.

[c22] 22. A method for the manufacture of a multilayer article, comprising blow molding a composition comprising blow molding the composition of claim 1.